



Meeting Notes

Meeting: Butte Interstate Traffic Study, IM 002(672), CN 5098 – Option Development Workshop

Date/Time: December 7, 2007 – 9:00 am – 4:00 pm

Location: Butte District Office Conference Room

Attendees:

Miki Lloyd – Consultant Design Project Engineer, MDT	C. Ray Stocks – Butte Maintenance Chief, MDT
Danielle Bolan – State Traffic Engineer, MDT	John VanDaveer – Public Works Director, BSB
Roy Peterson – Traffic Project Engineer, MDT	Lori Casey – Senior Planner, BSB Planning Dept.
Jeff Ebert – Butte District Administrator, MDT	Lloyd Rue – FHWA
Joe Olsen – Butte District Eng. Services Supervisor, MDT	Jeff Patten – FHWA
Joe Walsh. Butte District Projects Manager, MDT	Corey Lang – Project Manager, PBS&J
Lee Alt – Butte District Traffic Eng., MDT	Dave Millar – Senior Engineer, PBS&J

Agenda Items: See attached agenda

This meeting was an all day workshop to identify review, and discuss potential improvement concept options for each interchange and for the interstate mainline segments to address the deficiencies identified in Phase 1 for the Butte Interstate system. Prior to the meeting PBS&J emailed working graphics for each interchange that showed major deficiencies and several potential concept options for each interchange.

Introductions/Goals of the workshop

- After self introductions PBS&J reviewed the goals of the workshop. The overall goal of the workshop is to discuss each interchange, reviewing the concepts presented in pre-meeting graphics, identifying potential additional options and narrowing the number of concepts to be taken forward to a conceptual design level to 2 to 3 concepts for each interchange. Additionally corridor level and interchange specific minor or safety type projects would be reviewed and discussed. PBS&J handed out a spreadsheet list of minor/safety projects, which included around 60 projects.
- A revised list of minor/safety type projects is attached to these meeting notes.
- PBS&J reviewed comments received at the public meeting and discussed the addition of the Nissler Interchange to the scope of work for this phase. After the November conference call it was decided by MDT to include the Nissler interchange because of the close proximity to the Rocker interchange and public comments/questions were received on the Nissler interchange at the public open house meeting. PBS&J is preparing a scope of work to include the Nissler interchange in Phase 2 of the project. The Phase 1 report will not be amended, however similar deficiency analysis on the geometrics, safety and signing will be completed. Traffic operation and capacity analysis will not be completed.

Corridor Wide Solutions

- PBS&J reviewed the corridor wide solutions shown in the list of minor/safety type projects. There was considerable discussion on potentially changing the speed limits or using variable speed limits took place. Topics of discussion included statutory requirements and potential issues. It was decided

to carry these options forward as it was determined that there could be a package of options that might require legislative action and since the overall product of the project is a long range plan where implementation of certain elements will be determined at a later date.

- It was mentioned that there may be an automatic counter near the Oregon street crossing that records speed data. Dawn Warrick may have information on this.
- The only corridor wide project to be dropped was the narrowing of the lanes to 11' or 11.5' feet. This was dropped because of concern over effectiveness (existing concrete joints, minimal benefit along structurally obsolete bridges, etc.).
- Discussion on the incident management plan revealed that Butte Silver Bow has begun developing incident management plans and MDT has developed an incident management plan for the US 93 corridor. PBS&J will contact Roger Ebner with BSB to discuss the incident management plans. MDT will look at how the US 93 incident management plan was developed/programmed. PBS&J will detail specifics that should be included in an incident management plan (level of communication, protocol for response, detours, etc.).
- It was also mentioned that there has been discussion on developing a rural incident management center.
- There are several ITS type projects shown in the minor/safety project list (speed display, variable speed limits, CCTV, DMS, RWIS, traveler information). Discussion on the ITS type projects lead to the determination that it would be appropriate to contact MDT staff who are leading the statewide development of an ITS plan. Miki will set up a meeting with MDT staff (Mike B., Phil E., John Schwartz, etc.) to discuss potential statewide ITS plans. The initial statewide ITS plan is complete. Miki will try and get PBS&J a copy of the plan
- As PBS&J advances the project specific examples and details of each ITS type project will be developed for review.
- It was decided to add a corridor wide project for landscape elements so that landscaping is considered on all future projects within the corridor.
- Although not a corridor wide application the use and need of median barrier was discussed as it relates to the 2006 AASHTO Roadside Design Guide. Median Barrier is now required on medians narrower than 30 feet. On this project that applies to the interstate mainline between Montana Street and East Butte interchanges.

Interchange Concepts

- Each preliminary concept for each interchange presented in the pre-meeting handouts was reviewed.
- Notes on specific interchanges are shown below.
- It was decided that each system level to system level interchange should include one option that meets design standards for a true high speed system level type interchange. MDT will provide PBS&J with design criteria developed as part of the Billings Bypass project.
- A tabular list of the interchange concepts that will be advanced to conceptual design is shown at the end of these meeting notes.

Rocker Interchange

- Need to check the structural sufficiency of the bridges.
- There is some concern on the use of roundabouts at this interchange because of the high truck traffic.
- Because of the location of the adjacent truck stop gas stations it is difficult to come up with options that may be cost effective compared to the volume of traffic at this interchange.
- Each Rocker option includes lengthening the EB on-ramp acceleration length to provide an auxiliary lane up the steep grade.
- Option 3 was dropped (relocate all ramps to the west of existing interchange location).

Nissler Interchange

- MDT is working on a project to improve the EB I-90 off-ramp to SB I-15.
- Look at short term improvements – combination of individual ramp improvements

West Butte Interchange

- Discussion on the realignment of the mainline (between West Butte and Montana Street) segment took place. It was decided that because of the significant safety issues on this mainline segment it made sense to realign the interstate (improve curvature and bring the EB and WB lanes closer together) as a baseline and then develop improvement options for the West Butte Interchange. The only exception to this is the relocation of the WB off ramp to I-115 will also be developed based on minimal improvements to the mainline (short term safety project).
- PBS&J discussed issues associated with reclassifying I-115 to a primary route from an interstate classification. It was decided to continue to advance the option to reclassify since this is a planning document. The project will be advanced showing the interchange options available at West Butte based on interstate and primary route classification of I-115.
- There was discussion on system level interchange lighting standards. Currently MDT does not have specific lighting standards for system level interchanges and the current standards are being revised to remove complete interchange lighting. MDT will discuss internally how to address this.

Excelsior Interchange

- Need to do anything at this interchange is dependent on the decision on reclassifying I-115. If it is reclassified and the speed limit is reduced to 35 mph the existing deficiencies on the ramp acceleration/deceleration would go away.
- If I-115 is reclassified the Iron Street Access as shown in the Butte Transportation Plan could be implemented with an at grade intersection on I-115.
- It was noted that declassifying I-115 would not change the access control because that is a federal action and the access rights are recorded. MDT would still control all access to a reclassified facility.

Montana Street Interchange

- Access improvements to the shared ramp frontage roads are common to all options.
- The SPUI option was dropped because of the limited benefits and high costs.

Harrison Avenue Interchange

- Harrison Avenue concept options include 2 full reconstruction options and several (H3-H7) individual ramp improvement options (short term). Some of the short term options could be packaged together. It was determined to keep the options separate as shown in the pre-meeting graphics for development purposes and to validate that they work from a traffic operation and geometric (turning movement) stand point. Once each option is validated traffic operations on certain combinations will be conducted (example H3 and H5).
- The only option that was dropped was option 8, which required significant property relocations.
- An additional minor/safety project to restripe Harrison back to 2 lanes from the Harrison I/C down to the mall.

East Butte Interchange

- The proposed Our Lady of the Rockies Interchange was discussed as part of the East Butte Interchange. PBS&J will look at the proposed layout from the Butte Transportation plan and determine if the location is feasible from a geometric and interchange spacing perspective.
- Variations of Option 1 will be looked at to develop the best alignment for the SB to EB flyover.
- After reviewing the minimum system level design criteria from the Billings Bypass PBS&J will determine if the EB to NB ramp will need to be modified to meet the system level criteria.

Continental Interchange

- The roundabout option will be designed as a dog bone type configuration between ramp terminals and frontage road intersections.

Interchange Concepts to Advance

- The following concepts will be further advanced to a conceptual design level.

Option	Description	Notes
Rocker Option 1 (R1) – Roundabout Ramp Terminals	Replace ramp terminal intersections with roundabouts that combine the frontage road intersections	Analyze for high truck traffic
Rocker Option 2 (R2) – Relocate the EB off-ramp	EB off-ramp will be relocated	
Rocker Option 3 (R3) – Single Point Urban Interchange (SPUI)	Reconfigure the interchange ramps to a SPUI configuration, requires replacing the bridges	Look at need to signalize SPUI
Nissler Option 1 (N1) – Short term ramp improvements	Ramp improvements to the EB to SB ramp, NB to WB, and WB to SB.	Includes MDT's current project
Nissler Option 2 (N2) – Standard system level interchange	High speed system level interchange option based on min. design standards	Based on Billings Bypass criteria
West Butte Option 1 (WB1) – Short Term WB off-ramp improvement	Relocate WB off-ramp to a right side exit on slightly improved mainline	Short term improvement
West Butte Option 2 (WB2) – Standard system level interchange	High speed system level interchange option based on min. design standards, including realigned mainline	Based on Billings Bypass criteria
West Butte Option 3 (WB3) – Diamond type interchange	Diamond interchange on realigned I-15/90 mainline with I-115 reclassified to primary route	
Excelsior Avenue Option 1 (Ex1) – Ramp Improvements	Extend acceleration/deceleration length on all ramps. Based on I-115 remaining an interstate classification	Need to check Excelsior bridge sufficiency
Montana Street Option 1 (M1) – Signalized Intersections	Signalize ramp terminals and modify shared frontage/ramp access. Improve acceleration/deceleration lengths to standards	
Montana Street Option 2 (M2) – Roundabout Intersections	Use roundabouts at ramp terminals and modify shared frontage/ramp access. Improve acceleration/deceleration lengths to standards	2 lane roundabouts

Option	Description	Notes
Harrison Avenue Option 1 (H1) – SPUI configuration	Reconstruct the interchange to a SPUI configuration including replacing the bridges and raising the mainline	
Harrison Avenue Option 2 (H2) – Tight Diamond configuration	Reconstruct the interchange to a tight diamond configuration including widening Harrison for required left turn lanes	Probably requires raising the mainline
Harrison Avenue Option 3 (H3) – EB loop ramp option	Remove the EB off-ramp and lengthen the EB loop off-ramp deceleration to meet standards, signalize the EB loop off/on-ramp terminal	Requires widened or new bridge for lengthened decal lane
Harrison Avenue Option 4 (H4) – EB	Remove the EB loop off-ramp and add a left turn lane and signal at the EB off-ramp	Check intersection turning movements
Harrison Avenue Option 5 (H5) – WB off and on ramp improvements	Remove the WB loop on-ramp and realign the WB off-ramp, add a turn lane for the WB on-ramp in the NB direction	
Harrison Avenue Option 6 (H6) – Relocate WB on-ramps to Amherst Avenue	Remove the WB on-ramps and relocate the WB on-ramp to tie in w/Amherst Avenue, realign Harrison west so that third NB lane can be developed to Amherst along with a new NB left turn lane to the new WB on-ramps	Requires significant property acquisition
Harrison Avenue Option 7 (H7) – Roundabout option	Replace ramp terminals with roundabouts, requires realigning each ramp and removing loop ramps	PBS&J will check geometric feasibility
West Butte Option 1 (WB1) – SB Flyover	Remove tight loop ramp and build new high speed flyover ram for SB to EB	Check NB ramp against design criteria
West Butte Option 2 (WB2) – Utilize existing configuration and improve acceleration deceleration lengths	Lengthen EB to NB deceleration length and SB to EB acceleration length, would require widening bridge	Check structure sufficiency
West Butte Option 3 (WB3) – Our Lady of the Rockies I/C	Our Lady of the Rockies off-set diamond interchange as shown in the Butte Transportation Plan	Check geometric feasibility
Continental Option 1 (C1) - Frontage Road Realignment	Relocate Eastside frontage road intersection	
Continental Option 2 (C2) – Roundabout Option	Add Roundabouts at each ramp terminal and adjacent frontage road. Use dog bone configuration	

Action Items

Action Item	Responsibility	Deadline
Set up a meeting with MDT ITS staff	M. Lloyd	01/31/08
Send PBS&J the system level interchange design criteria	R. Peterson	01/31/08
Research how US 93 IMP was developed/programmed	D. Bolan	01/31/08
Contact R. Ebner w/BSB to discuss incident management plans	C. Lang	01/31/08

Please contact **Corey Lang** with **PBS&J** at **406-599-1479** (or via email at celang@pbsj.com) if there are any changes or questions with these meeting notes. These notes will be considered final unless comments are received within seven days of distribution. Although comments will be incorporated, as appropriate, only major revisions will be redistributed.